

line screening;

Fig. 3 shows the results of all L-esters tested on Colo205 cells (colonic cancer); and

Fig. 4 shows the results of all L-esters tested on BxPC3 cells (pancreatic cancer). --

On page 7, between lines 10 and 11, please insert:

-- DESCRIPTION OF VARIOUS AND PREFERRED EMBODIMENTS OF THE
INVENTION --

On page 77, please delete line 1 and insert therefore:

-- WHAT IS CLAIMED IS: --

Amendments to the Claims:

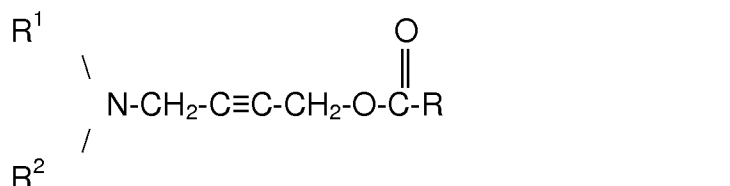
Please amend claims 1 to 12 and add claim 13 as set forth hereinafter.

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims

1. (Currently Amended) 4-(N-substituted amino)-2-butynyl-1-esters represented by the following general formula I, their bis-(2-butynyl)diesters and pharmaceutically acceptable salts thereof,



wherein

R is a hydrogen atom; a straight-chained or branched, saturated or unsaturated aliphatic radical with 1-20 C-atoms which is unsubstituted or substituted one or more times by C₁-C₆-alkyl, C₁-C₆-alkoxy, halogen, epoxy, amino, mercapto, a phenyl ring which is unsubstituted or substituted one or more times by C₁-C₆-alkyl, C₁-C₆-alkoxy, hydroxy, epoxy, amino, mercapto or halogen; a cycloalkyl group with 4 to 7 atoms unsubstituted or substituted

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one or more times by C₁-C₆-alkyl, C₁-C₆-alkoxy, hydroxy, epoxy, amino, mercapto or halogen,

R¹ and R² are joined to form a heterocyclic ring with 3 to 6 C-atoms, unsubstituted or substituted one or more times by C₁-C₆-alkyl, C₁-C₆-alkoxy, hydroxy, halogen, epoxy, amino, mercapto, whereby at least one C-atom can be replaced by O, S or N,

or

R¹ and R² are the same or different a hydrogen atom, a straight-chained or branched, saturated or unsaturated aliphatic radical with 1-20 C-atoms, unsubstituted or substituted one or more times by C₁-C₆-alkyl, C₁-C₆-alkoxy, hydroxy, halogen, epoxy, amino, or mercapto,

2. (Previously Presented) 4-(N-substituted amino)-2-butyryl-1-esters according to claim 1,

wherein

R is a hydrogen atom, a straight-chained or branched alkyl group with 1-12 C-atoms, which can be substituted one or more times by C₁-C₆-alkyl; a phenyl ring which can be substituted one or more times by C₁-C₆-alkyl; a cyclo alkyl ring with 5-6 C-atoms which can be substituted one or more times by C₁-C₆-alkyl.

3. (Currently Amended) 4-(N-substituted amino)-2-butyryl-1-esters according to claim 1 ~~or~~ 2,

wherein

R¹ and R² are the same alkyl group with 1-12 C-atoms, which can be straight-chained or branched and substituted by C₁-C₆-alkyl,

or

R¹ and R² are joined to form a heterocyclic ring with 4 to 6 C-atoms, whereby at

least one C-atom can be replaced by O, S or N, and the ring can be substituted by C₁-C₆-alkyl.

4. (Currently Amended) 4-(N-substituted amino)-2-butynyl-1-esters according to ~~one of claims 1 to 3~~ claim 1,

wherein

R is a hydrogen atom, a straight-chained or branched alkyl group with 1-6 C-atoms, which can be substituted one or more times by C₁-C₆-alkyl; a phenyl ring which can be substituted one or more times by C₁-C₆-alkyl; a cyclo alkyl ring with 5-6 C-atoms which can be substituted one or more times by C₁-C₆-alkyl,

and

R¹ and R² are the same alkyl group with 1-6 C-atoms, which can be straight-chained or branched and substituted by C₁-C₆-alkyl,

or

R¹ and R² are joined to form a heterocyclic ring with 4 to 6 C-atoms, whereby at least one C-atom can be replaced by O, S or N, and the ring can be substituted by C₁-C₆-alkyl.

5. (Currently Amended) 4-(N-substituted amino)-2-butynyl-1-esters according to claims 4,

wherein

R is H or alkyl ~~such as methyl, ethyl, propyl, butyl, pentyl, hexyl, phenyl, tertiary butyl and cyclohexyl~~

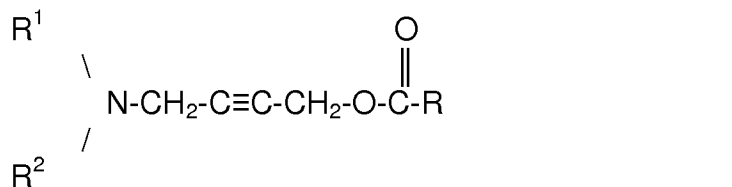
and

R¹ and R² are identically methyl, ethyl, propyl, butyl or phenyl; or form together with the N-atom a piperidino, pyrrolidino, morpholino, thiomorpholino, hexamethylene imino, piperazino and methyl piperazino ring.

6. (Currently Amended) 4-(N-substituted amino)-2-butynyl-1-esters according to ~~claims~~ claim 5,
wherein 4-(N-substituted amino)-2-butynyl-1-esters are selected from the group comprising
- [N-(4-morpholino-2-butynyl)] acetate
 - [N-(4-piperidino-2-butynyl)] acetate
 - [N-(4-(N-methyl piperazino-2-butynyl)] acetate
 - [N-(4-thiomorpholino-2-butynyl)] acetate
 - [N-(4-pyrrolidino-2-butynyl)] acetate
 - [N-(4-hexamethylene imino-2-butynyl)] acetate
 - [N-(4-morpholino-2-butynyl)] benzoate
 - [N-(4-morpholino-2-butynyl)] formate
 - [N-(4-diethylamino-2-butynyl)] acetate
 - [N-(4-diphenylamino-2-butynyl)] acetate
 - [N-(4-morpholino-2-butynyl)] propionate
 - [N-(4-thiomorpholino-2-butynyl)] propionate
 - [N-(4-morpholino-2-butynyl)] pivalate
 - [N,N'-(4,4-piperazino-bis-2-butynyl)] diacetate and
 - [N-(4-morpholino-2-butynyl)] cyclohexyl carboxylate.
7. (Currently Amended) Method for producing 4-(N-substituted amino)-2-butynyl-1-esters or a pharmaceutically acceptable salt according to ~~anyone of claims 1-6~~ claim 1 comprising
- a successive conversion of a propargyl alcohol in a propargyl ester by simple esterification,
 - a conversion of the propargyl ester in N-(4-amino-2-butynyl) ester by Mannich condensation to give a compound of formula I and, if desired optionally,

converting a compound of formula I to a corresponding ~~pharmaceutically~~
pharmaceutical salt by conventional means.

8. (Currently Amended) Method according to claim 7,
~~characterized in that,~~
wherein the Mannich condensation is performed in the presence of paraformaldehyd, an acid catalyst, Cu-salts and a solvent.
9. (Currently Amended) Pharmaceutical composition for use in therapy, comprising a compound according to ~~anyone of claims 1 to 6~~ claim 1, and a pharmaceutically-acceptable ~~carriers, adjuvants, vehicles and/or diluents~~ carrier, adjuvant, vehicle and/or diluent.
10. (Currently Amended) ~~Use of~~ Method of treating a cell proliferative disorder comprising
administering to a patient benefiting from such a treatment at least one ~~M4-(N-substituted amino)-2-butynyl-1-esters~~ M4-(N-substituted amino)-2-butynyl-1-ester represented by the ~~following general formula I, their bis-(2-butynyl)diesters~~ its bis-(2-butynyl)diester and/ or a pharmaceutically acceptable salts salt thereof,



wherein

R is a hydrogen atom; a straight-chained or branched, saturated or unsaturated aliphatic radical with 1-20 C-atoms which is unsubstituted or substituted one

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or more times by C₁-C₆-alkyl, C₁-C₆-alkoxy, ~~hydroxy~~, halogen, epoxy, amino, mercapto, a phenyl ring which is unsubstituted or substituted one or more times by C₁-C₆-alkyl, C₁-C₆-alkoxy, hydroxy, epoxy, amino, mercapto or halogen; a cycloalkyl group with 4 to 7 atoms unsubstituted or substituted one or more times by C₁-C₆-alkyl, C₁-C₆-alkoxy, hydroxy, epoxy, amino, mercapto or halogen,

R¹ and R² are joined to form a heterocyclic ring with 3 to 6 C-atoms, unsubstituted or substituted one or more times by C₁-C₆-alkyl, C₁-C₆-alkoxy, hydroxy, halogen, epoxy, amino, mercapto, whereby at least one C-atom can be replaced by O, S or N,

or

R¹ and R₂ R² are the same or different a hydrogen atom, a straight-chained or branched, saturated or unsaturated aliphatic radical with 1-20 C-atoms, unsubstituted or substituted one or more times by C₁-C₆-alkyl, C₁-C₆-alkoxy, hydroxy, halogen, epoxy, amino, mercapto,

in a cell proliferative disorder treating effective amount
~~for manufacturing an agent for the treatment of a cell proliferative disorder.~~

11. (Currently Amended) ~~Use according to claim 10,~~
~~characterized in that~~ The method of claim 10, wherein
the cell proliferative disorder is a neoplasia.
12. (Currently Amended) ~~Use according to claim 10 or 11,~~
~~characterized, in that,~~
~~the neoplasia~~ The method of claim 11, wherein the neoplasia is selected from the group consisting of leukemias, lymphomas, sarcomas, carcinomas, neural cell

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tumors, squamous cell carcinomas, germ cell tumors, undifferentiated tumors, seminomas, melanomas, neuroblastomas, mixed cell tumors, metastatic neoplasia and neoplasia due to pathogenic infections.

13. (New) 4-(N-substituted amino)-2-butynyl-1-esters according to claim 5, wherein R is methyl, ethyl, propyl, butyl, pentyl, hexyl, phenyl, tertiary butyl or cyclohexyl.
14. (New) Pharmaceutical composition for use in therapy, comprising a compound according to claim 3, and a pharmaceutically-acceptable carrier, adjuvant, vehicle and/or diluent.
15. (New) A kit for inhibiting abnormal cell growth comprising at least one of the esters of claim 1, bis-(2-butynyl) diesters or pharmaceutically acceptable salts thereof, and, in a separate container, information about using parts of the kit.